

# M M W R

**MORBIDITY AND MORTALITY WEEKLY REPORT**

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## *Perspectives in Disease Prevention and Health Promotion*

### **Tuberculosis Control Among Homeless Populations**

Homeless persons suffer disproportionately from a variety of health problems, including tuberculosis. Although there is no generally agreed upon definition of homelessness, the homeless can be defined, on a general level, as those who do not have customary and regular access to a conventional dwelling or residence (1). Since 1984, three outbreaks of tuberculosis in shelters for the homeless have been reported to CDC (unpublished data) (2), and recent investigations have shown a prevalence of 1.6%-6.8% for clinically active tuberculosis among selected homeless populations (3). These prevalence rates are 150 to 300 times higher than the nationwide prevalence rate. The prevalence of asymptomatic tuberculosis infection among the homeless has been reported to be as high as 22%-50% (3-5), thus indicating that a large reservoir of infection may exist from which future cases will emerge unless large-scale preventive measures are undertaken.

In January 1987, CDC convened a group of individual consultants\* to assist in developing strategies for dealing with this problem. After reviewing these strategies, CDC developed the following recommendations. State and local health departments are urged to consider implementing these recommendations where applicable.

#### **A. Assessment of the Magnitude of the Problem**

Each community should assess the nature and magnitude of the problem by determining the proportion of tuberculosis patients who are homeless. Health departments should obtain as much information as possible about where each tuberculosis patient lives. Homeless patients sometimes give the mailing address of a friend or relative; therefore, a mailing address does not necessarily indicate whether or not a patient is homeless. Health departments also should maintain, and regularly update, listings of single-room-occupancy hotels and shelters for the homeless in their areas so that patients' addresses can be compared with locations on the list.

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## *Tuberculosis — Continued*

### **B. Case Finding**

*Passive Approaches.* Shelter employees should be educated about tuberculosis, particularly regarding its mode of spread and the potential hazards of transmission in shelters. Any person with a persistent cough should be promptly evaluated at the shelter or transported to a health care facility. If tuberculosis is suspected, more definitive diagnostic tests should be done as soon as possible.

*Active Approaches.* Where homeless populations are housed in relatively stable groups and where a tuberculosis problem has been identified, periodic mass tuberculin skin testing and/or chest radiography should be considered. Local health departments should work with persons who are caring for the homeless to develop and implement appropriate policies for surveillance of tuberculosis in these communities. Health departments may need to establish special record systems to keep track of the dates and results of screening activities, medical recommendations, and indications of compliance with those recommendations.

### **C. Case Reporting**

The local health department should be notified by telephone as soon as a case of tuberculosis is suspected or diagnosed. Delay or failure to notify the health department may result in a patient's being lost to follow-up, with little or no chance for treatment.

### **D. Case Holding**

Homeless patients with newly diagnosed tuberculosis should be appropriately housed to allow full supervision of initial therapy and to preclude transmission of infection to their contacts (e.g., other shelter clients and shelter employees). This usually means a period of hospitalization in an isolation room of an acute-care facility until other arrangements can be made. Some communities have developed cost-effective alternatives to hospitalization, such as half-way houses and special shelter areas (Pima County Health Department, unpublished data). If, despite the best efforts of health care providers, an infectious patient refuses treatment, temporary involuntary isolation should be instituted in accordance with state and local public health laws and regulations until the patient has been rendered noninfectious by treatment. This option should be used only in rare instances and after due process.

Rarely, hospitalization or institutionalization throughout the course of therapy may be necessary, but most patients can be effectively managed as outpatients. A staff member of the health department should serve as a liaison between the attending medical team and the patient, interpreting the patient's perspective to the medical team and vice versa and assessing the likelihood of compliance (3,6). The initial visit with the patient should include the development of a long-term treatment plan that the patient understands and can reasonably be expected to follow. Rapport with the patient must be established. A physical description of the patient, and possibly a photograph (with the patient's permission), should be included in the chart.

Clinic schedules should include hours that accommodate patient schedules. Enabling incentives—that is, incentives that allow the patient to overcome barriers to obtaining treatment—should be considered. These might include items such as free meals, special lodging, bus tokens, priority in food lines, assistance in filing for benefits, taxi vouchers, and personally needed articles. In many communities, local merchants and affiliates of the American Lung Association have cooperated to provide incentives to be used by the health department (7).

### **E. Treatment**

With rare exceptions, a patient's medications should be taken while he or she is being observed by a responsible person, thus preventing treatment failure, the emergence of resistant organisms, and continued transmission. In many instances, treatment can be given and observed by designated persons at the shelter or at some other location convenient for the patient. Treatment should include intensive multidrug, bactericidal regimens for 6 months (8).

### Tuberculosis — Continued

Although currently recommended regimens specify that medications should be administered daily for the first 1-2 months of treatment, the supervision of daily therapy for homeless outpatients may not be feasible. Therefore, two alternatives should be considered: 1) provide directly observed therapy 5 days per week (asking the patient to take drugs on his/her own the other 2 days) or 2) provide directly observed therapy 3 days per week using higher drug dosages: isoniazid 15 mg/kg, rifampin 600 mg (or 450 mg for persons weighing <50 kg), ethambutol 30 mg/kg, and pyrazinamide 2.5 g (or 2 g for those weighing <50 kg) (9). *Mycobacterium tuberculosis* in sputum should be evaluated at 2- to 4-week intervals until sputum smears become negative. Patients with initially positive sputum smears or cultures can return to the shelter when bacteriologic and clinical evidence shows they have responded to therapy and when the health care provider is satisfied that the outpatient treatment plan is being followed.

### F. Prevention

Case finding and treatment should be implemented as early as possible, since they are the most important measures for preventing the further spread of infection and disease. Efforts should be made to locate contacts of patients so they also may be evaluated and treated, if necessary.

Because crowding and poor ventilation are conducive to tuberculosis transmission, steps should be taken to improve defective housing conditions. Although the use of ultraviolet (UV) lights is controversial because no epidemiologic evaluations of its effectiveness have been conducted, the consultants felt that consideration should be given to installing UV lights in crowded shelters where transmission of tuberculosis infection is a problem. CDC currently recommends UV lights to reduce transmission of tuberculosis in hospitals (10). If UV lights are used, they must be installed and maintained according to accepted guidelines to remain effective and to avoid injury to the skin or eyes of shelter clients and staff (11). An updated reference on the rationale and methodology for using UV lights will be published soon (12).

Except for special surveys, tuberculin skin testing of homeless populations should be undertaken only if there is a commitment to complete the diagnostic evaluation and prescribed therapy. Priorities for preventive therapy should follow established guidelines (8). A poorly implemented preventive therapy program may lead to a worsening of the tuberculosis problem, e.g., if isoniazid preventive therapy is not strictly adhered to, isoniazid-resistant disease may occur. Incentives may improve patients' compliance with preventive treatment. For high-risk individuals who are likely to be noncompliant, directly observed isoniazid preventive therapy given twice a week in a dose of 15 mg/kg should be considered (8,13).

Staff members and persons who work regularly as volunteers in shelters for the homeless should receive a tuberculin skin test, with appropriate follow-up, upon employment and every 6-12 months thereafter (2).

Reported by: Div of Tuberculosis Control, Center for Prevention Svcs, CDC.

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***Progress in Chronic Disease Prevention*****Treatment and Perceived Blood Pressure Control Among Self-Reported Hypertensives — Behavioral Risk Factor Surveillance System, 1986**

Survey data show that awareness, treatment, and control of hypertension have increased dramatically since 1974. In 1974, only 51% of hypertensive persons were aware that their blood pressure was high. Thirty-six percent of these persons were under treatment, and 16% of those being treated had their blood pressure under control (< 160 mm Hg systolic or 95 mm Hg diastolic). By 1984, 85% were aware of their condition, and 74% were under treatment (1). In 1984, however, the definition of high blood pressure was changed from > 160/95 mm Hg to > 140/90 mm Hg. Because of this new definition, surveys conducted during 1982-1984 showed that only 24% of hypertensive patients on medication had their blood pressure under control (2).

Because most hypertensive persons have been told that their blood pressure is high, surveys using self-reported blood pressure status have been used to assess awareness, treatment, and perceived control of high blood pressure (3). The Behavioral Risk Factor Surveillance System (BRFSS) (4) provides data on self-reported hypertensives from a probability sample of adults in participating states. In this analysis, state-specific estimates of the prevalence of awareness, treatment, and perceived control of hypertension are provided for the 26 states collecting data in 1986.

Survey respondents were defined as "self-reported hypertensives" if they reported that 1) they had been told they had high blood pressure on two or more occasions, 2) they had antihypertensive medication currently prescribed, or 3) they reported having high blood pressure at the time of the survey. Hypertensives were defined as "under treatment" if they reported that medication was currently prescribed. Those who reported that, as far as they knew, their blood pressure was presently normal or under control were defined as "under control". Prevalence estimates and confidence intervals were rounded to the nearest percent.

Table 1 shows the 1986 state-specific prevalences of self-reported hypertensives, hypertensives under treatment, and hypertensives who perceived their blood pressure to be under control. Among participating states, the median percentage of self-reported hypertensives among the adult population was 18% (range 14%-22%). The median percentage of hypertensives under treatment was 75% (range 67%-87%). Finally, the median percentage of hypertensives who were under treatment and thought their blood pressure was under control was 92% (range 88%-98%).

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**Editorial Note:** It is reasonable to ask how comparable the estimates of self-reported hypertension status from the 26 BRFSS states are to estimates of hypertension status from other population-based surveys that use measured blood pressures to estimate the prevalence of hypertension status. To answer this question, the median prevalence of hypertension status from the 26 BRFSS states was compared with estimates from in-person surveys that were sponsored by the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health and conducted during the period 1982-1984 by seven state health departments. The median percentage of 18% for self-reported hypertension in the 1986 BRFSS is comparable

TABLE 1. Treatment and perceived control of hypertension among self-reported patients in selected states — 1985 Behavioral Risk Factor Surveillance System

State	Sample Size	Hypertensive Patients			
		Self-Reported		Under Treatment	
		(%)	95%CI*	(%)	95%CI*
				(%)†	95%CI*
Alabama	559	16	±3	84	±9
Arizona	1,178	14	±2	87	±9
California	1,579	16	±2	70	±8
District of Columbia	1,145	18	±3	84	±6
Florida	1,162	18	±3	75	±6
Georgia	1,140	18	±3	75	±6
Hawaii	1,551	16	±3	67	±7
Idaho	1,185	15	±2	73	±7
Illinois	1,142	18	±3	74	±7
Indiana	1,182	19	±3	79	±6
Kentucky	1,216	18	±2	80	±6
Massachusetts	1,105	19	±3	68	±7
Minnesota	3,023	16	±2	78	±4
Missouri	873	21	±3	78	±7
Montana	1,176	15	±2	75	±7
New Mexico	1,139	12	±2	76	±8
New York	1,135	16	±3	74	±6
North Carolina	1,622	18	±2	77	±5
North Dakota	1,182	16	±2	79	±7
Ohio	1,158	17	±3	75	±6
Rhode Island	1,535	20	±2	87	±4
South Carolina	1,793	19	±2	77	±5
Tennessee	1,779	20	±2	82	±5
Utah	1,188	16	±2	71	±6
West Virginia	1,380	22	±3	78	±5
Wisconsin	1,268	16	±2	72	±7

\*Confidence interval, rounded to nearest whole percent.

†Perceived blood pressure control among treated hypertensive patients.

## Blood Pressure Control — Continued

to the estimate of approximately 16%\* for hypertensives who were aware of their condition in the NHLBI surveys (7). However, because actual measurements cannot be taken in the BRFSS, the prevalence of self-reported hypertension includes persons who may not actually have been hypertensive at the time of the survey. In addition, it does not include hypertensives who were not aware of their condition.

The percentage of self-reported hypertensives who reported being under treatment at the time of the BRFSS (75%) is similar to the percentage of hypertensives under treatment in the NHLBI surveys (74%). In contrast, there was a median of 92% for hypertensives who perceived their blood pressure to be under control in the BRFSS, whereas the NHLBI surveys, based on measured blood pressures, estimated that 24% of treated hypertensives were under control (blood pressure < 140/90 mm Hg) (2). The implication is that, when 140/90 mm Hg is used as the definition of high blood pressure, many hypertensives who are under treatment may incorrectly consider their blood pressure to be controlled.

\*19% prevalence of hypertension x 85% awareness.

(Continued on page 267)

TABLE I. Summary — cases specified notifiable diseases, United States

Disease	17th Week Ending			Cumulative, 17th Week Ending		
	May 2, 1987	Apr. 26, 1986	Median 1982-1986	May 2, 1987	Apr. 26, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	176	255	N	6,186	4,107	N
Aseptic meningitis	88	115	70	1,433	1,433	1,319
Encephalitis: Primary (arthropod-borne & unspc)	19	10	18	247	268	295
Post-infectious	4	2	2	19	32	32
Gonorrhea: Civilian	13,212	18,065	18,983	254,291	272,887	272,887
Military	222	289	438	5,513	5,106	6,891
Hepatitis: Type A	420	440	438	7,996	7,317	7,317
Type B	473	536	495	8,080	8,167	7,994
Non A, Non B	48	79	N	889	1,116	N
Unspecified	48	91	114	1,081	1,814	1,707
Legionellosis	20	18	N	243	187	N
Leprosy	9	7	7	72	84	90
Malaria	20	17	23	217	231	230
Measles: Total*	77	233	141	1,133	2,311	1,003
Indigenous	69	223	N	867	2,238	N
Imported	9	10	N	166	89	N
Meningococcal infections: Total	42	62	70	1,162	1,081	1,153
Civilian	42	62	70	1,161	1,079	1,142
Military	-	-	-	1	2	4
Mumps	369	77	77	6,076	1,152	1,368
Pertussis	23	77	34	672	835	585
Rubella (German measles)	7	13	23	108	173	230
Syphilis (Primary & Secondary): Civilian	602	671	617	10,614	8,368	8,250
Military	4	5	11	57	79	113
Toxic Shock syndrome	9	13	N	103	121	N
Tuberculosis	424	478	478	6,378	6,331	6,803
Tularemia	5	-	1	34	20	27
Typhoid fever	3	8	7	83	75	108
Typhus fever, tick-borne (RMSF)	6	5	10	21	27	38
Rabies, animal	92	165	153	1,532	1,774	1,774

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	-	Leptospirosis	8
Botulism: Foodborne	1	Plague	2
Infant	18	Polioomyelitis, Paralytic	-
Other	-	Psittacosis (Colo. 3)	26
Brucellosis (Conn. 1; Me. 1; Tex. 2; Calif. 1)	27	Rabies, human	-
Cholera	-	Tetanus	9
Congenital rubella syndrome (Wash. 1)	3	Trichinosis	11
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	7
Diphtheria	1	(Tex. 1)	

\*Four of the 77 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending  
May 2, 1987 and April 26, 1986 (17th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Culture)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,HB	Unspeci- fied		
	Cum 1987	1987	Cum 1987	Cum 1987	Cum 1987	Cum 1986	1987	1987	1987	1987	1987	Cum 1987
UNITED STATES	6,186	88	247	19	254,291	272,867	420	473	48	48	20	72
NEW ENGLAND	223	2	11	1	8,884	5,805	11	45	2	5	1	4
Maine	11	-	1	-	275	306	2	2	-	-	-	-
NH	6	-	-	-	151	167	-	3	1	-	-	2
VT	4	-	2	-	66	94	-	2	-	-	-	-
Mass	131	-	4	-	3,283	2,601	5	30	1	5	1	2
RI	19	2	3	1	738	567	2	6	-	-	-	-
Conn	52	-	1	-	4,371	2,070	2	2	-	-	-	-
MID ATLANTIC	1,973	8	27	1	41,538	46,216	20	39	3	11	-	5
Upstate N Y	227	3	15	1	5,435	5,236	14	12	1	1	-	-
N Y City	1,199	2	4	-	22,310	27,015	1	14	-	4	-	5
N J	394	3	3	-	5,243	6,154	5	13	2	6	-	-
Pa	153	-	5	-	8,550	7,811	-	-	-	-	-	-
E N CENTRAL	350	8	59	-	29,437	36,999	19	45	4	4	9	1
Ohio	71	6	24	-	8,244	8,812	6	15	2	-	4	1
Ind	32	U	3	-	2,801	4,029	U	U	U	U	U	-
Ill	154	-	8	-	3,874	9,303	-	6	-	1	-	-
Mich	89	2	22	-	11,829	10,797	13	24	2	3	5	-
Wis	34	-	2	-	2,689	4,058	-	-	-	-	-	-
W N CENTRAL	132	3	14	-	10,450	11,771	27	28	5	1	1	-
Minn	36	-	8	-	1,728	1,787	6	6	3	-	-	-
Iowa	5	-	1	-	986	1,166	4	5	-	-	-	-
Mo	67	3	-	-	5,435	5,770	3	13	-	-	1	-
N Dak	1	-	-	-	99	106	-	-	-	-	-	-
S Dak	1	-	-	-	208	235	3	-	1	-	-	-
Neb	7	-	3	-	605	865	1	1	-	1	-	-
Kans	15	-	2	-	1,389	1,841	10	3	1	1	-	-
S ATLANTIC	956	18	34	8	88,864	89,398	28	90	2	1	2	4
Del	8	-	1	-	1,038	1,099	3	-	-	-	-	-
Md	141	2	3	2	8,127	7,901	10	13	-	-	-	2
D C	127	-	-	-	4,688	5,271	1	-	-	-	-	-
Va	68	1	15	1	5,226	5,740	2	-	-	-	-	-
W Va	7	-	5	-	532	630	-	2	-	-	-	-
N C	37	4	8	-	10,405	11,225	4	13	1	-	-	-
S C	27	1	-	-	5,815	6,079	-	12	-	-	-	1
Ge	141	1	-	-	11,766	12,445	1	25	1	1	2	-
Fla	400	9	2	5	21,067	18,809	7	25	-	-	-	1
E S CENTRAL	64	9	14	3	19,236	22,367	2	19	1	-	3	-
Ky	17	-	6	1	1,977	2,623	2	6	-	-	2	-
Tenn	2	-	3	-	6,567	8,815	-	7	1	-	-	-
Ala	37	9	6	-	6,293	6,256	-	6	-	-	1	-
Miss	8	-	-	2	4,399	4,673	-	-	-	-	-	-
W S CENTRAL	593	9	26	1	29,912	33,329	40	43	7	7	1	4
Ark	16	-	-	1	2,962	3,172	1	-	-	-	-	-
La	89	2	5	-	5,462	5,908	-	3	-	1	1	-
Okla	22	2	9	-	3,216	3,956	6	10	3	1	-	-
Tex	470	6	12	-	18,272	20,393	33	30	4	6	-	4
MOUNTAIN	149	4	7	1	6,765	8,246	61	45	5	7	1	-
Mont	2	1	-	-	168	220	-	1	-	-	-	-
Idaho	3	-	-	-	241	252	6	3	-	-	-	-
Wy	2	-	-	-	101	195	-	-	-	-	-	-
Colo	73	1	1	-	1,267	2,178	6	6	-	3	1	-
N Mex	15	1	1	-	744	847	3	2	-	3	-	-
Ariz	21	1	5	1	2,548	2,745	38	27	2	4	-	-
Utah	9	-	-	-	234	346	6	3	2	-	-	-
Nev	24	-	-	-	1,461	1,463	2	3	1	-	-	-
PACIFIC	1,736	27	55	4	39,405	38,736	212	119	19	12	2	54
Wash	89	5	8	-	2,725	3,069	59	15	-	-	1	2
Oreg	37	-	-	-	1,459	1,503	22	7	2	3	-	-
Calif	1,601	21	47	4	34,284	32,761	129	89	17	9	1	45
Alaska	5	-	1	-	621	885	2	7	-	-	-	-
Hawaii	24	1	1	-	338	418	-	1	-	-	-	7
Guam	-	-	-	-	60	32	-	-	-	-	-	-
P R	16	1	-	1	718	748	-	1	-	-	-	4
VI	-	-	-	-	73	61	-	-	-	-	-	-
Pac Trust Terr	-	-	-	-	173	87	-	-	-	-	-	38
Amer Samoa	-	-	-	-	34	13	-	-	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending  
May 2, 1987 and April 26, 1986 (17th Week)

Reporting Area	Malania	Measles (Rubella)				Menn- gococcal infections	Mumps		Pertussis			Rubella			
		Indigenous	Imported *	Total											
		Cum 1987	1987	Cum 1987	1987	Cum 1987	Cum 1986	1987	Cum 1987	1987	Cum 1987	Cum 1986	1987	Cum 1987	Cum 1986
UNITED STATES	217	69	967	8	166	2,311	1,162	388	6,076	23	572	835	7	106	173
NEW ENGLAND	15	16	57	-	53	18	114	2	16	1	15	44	-	-	1
Maine	-	-	3	-	-	-	6	-	-	-	-	2	-	-	-
N.H.	-	16	49	-	46	-	13	-	6	1	2	16	-	-	1
Vt.	-	-	1	-	5	-	6	-	2	-	3	2	-	-	-
Mass.	8	-	-	-	2	15	56	-	1	-	3	9	-	-	-
R.I.	4	-	-	-	-	1	10	1	2	-	-	1	-	-	-
Conn.	3	-	4	-	-	-	23	1	5	-	7	14	-	-	-
MID ATLANTIC	12	14	137	-	35	788	75	4	95	4	79	85	-	3	25
Upstate N.Y.	7	1	9	-	8	4	52	1	38	4	62	59	-	1	17
N.Y. City	2	-	106	-	8	101	7	-	-	-	-	3	-	1	5
N.J.	1	-	6	-	2	682	-	3	28	-	4	5	-	1	3
Pa.	2	13	16	-	17	1	16	-	29	-	13	18	-	-	-
E.N. CENTRAL	5	7	100	2	15	458	149	123	3,406	2	73	155	-	17	10
Ohio	4	-	-	-	4	-	54	-	45	-	25	63	-	-	-
Ind.	-	U	-	U	-	-	17	U	419	U	1	16	U	-	-
Ill.	1	7	57	2	11	276	23	90	1,829	1	5	21	-	10	7
Mich.	-	-	23	-	-	-	47	24	481	1	22	16	-	1	2
Wis.	-	-	20	-	-	178	8	9	632	-	20	39	-	-	1
W.N. CENTRAL	5	3	34	3	5	100	60	105	782	-	33	38	-	1	6
Minn.	3	-	-	3	3	8	18	58	492	-	7	20	-	-	-
Iowa	-	-	-	-	-	1	3	32	212	-	3	5	-	1	-
Mo.	2	3	34	-	1	3	17	2	13	-	13	4	-	-	1
N. Dak.	-	-	-	-	-	4	1	-	3	-	1	2	-	-	-
S. Dak.	-	-	-	-	-	-	1	13	33	-	2	-	-	-	-
Nebr.	-	-	-	-	-	-	2	-	2	-	-	1	-	-	-
Kans.	-	-	-	-	1	84	18	-	27	-	7	6	-	-	5
S. ATLANTIC	37	1	37	1	2	306	209	3	73	2	129	315	-	9	1
Del.	1	-	-	-	-	16	17	-	-	-	-	182	-	-	-
Md.	8	-	-	-	-	1	4	-	8	-	2	42	-	2	-
D.C.	5	-	-	1	1	-	4	-	-	-	-	-	-	-	-
Va.	6	-	-	-	-	4	37	-	8	1	33	9	-	1	-
W. Va.	-	-	-	-	-	2	-	1	16	-	25	4	-	-	-
N.C.	3	-	-	-	-	-	29	-	2	1	52	14	-	-	-
S.C.	3	-	-	-	-	270	19	-	9	-	-	3	-	-	-
Ge.	2	-	-	-	-	1	40	-	6	-	13	45	-	1	-
Fla.	9	1	37	-	1	12	59	2	24	-	4	16	-	5	1
E.S. CENTRAL	1	1	1	-	-	1	58	105	928	-	7	15	-	2	1
Ky.	-	-	-	-	-	-	10	-	192	-	1	1	-	2	1
Tenn.	-	-	-	-	-	1	22	102	723	-	1	5	-	-	-
Ala.	-	-	-	-	-	-	22	3	13	-	3	9	-	-	-
Miss.	1	1	1	-	-	-	4	-	-	-	2	-	-	-	-
W.S. CENTRAL	13	-	74	-	1	327	89	9	494	-	40	26	-	1	35
Ark.	1	-	-	-	-	274	7	-	203	-	2	2	-	1	-
La.	-	-	-	-	-	-	10	-	171	-	9	3	-	-	-
Okl.	3	-	-	-	1	4	14	N	N	-	29	21	-	-	-
Tex.	9	-	74	-	-	49	58	9	120	-	-	-	-	-	35
MOUNTAIN	8	19	151	-	11	126	38	9	124	3	44	86	-	6	1
Mont.	-	16	16	-	1	1	-	-	-	-	1	3	-	-	-
Idaho	1	-	-	-	-	-	3	-	2	1	12	26	-	1	-
Wyo.	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Colo.	1	-	-	-	-	5	15	1	22	-	17	16	-	-	-
N. Mex.	-	3	134	-	9	18	3	N	N	2	3	9	-	-	-
Ariz.	4	-	1	-	1	102	15	8	93	-	8	23	-	-	1
Utah	-	-	-	-	-	-	-	-	5	-	1	9	-	4	-
Nev.	2	-	-	-	-	-	2	-	2	-	-	-	-	-	-
PACIFIC	121	8	376	2	44	189	370	8	158	11	152	71	7	67	93
Wash.	7	1	1	-	-	41	47	2	29	-	22	26	-	-	1
Oreg.	2	-	2	-	32	2	14	N	N	-	13	5	-	1	-
Calif.	109	7	373	-	8	128	303	6	118	4	70	39	3	59	91
Alaska	3	-	-	-	-	-	4	-	3	-	2	1	-	-	-
Hawaii	-	-	-	2	4	20	2	-	10	7	45	1	4	8	1
Guam	-	-	2	-	-	3	3	-	4	-	-	-	-	-	-
P.R.	-	36	340	-	-	4	2	-	1	-	11	4	-	1	58
V.I.	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	2	-	1	-	-	1	-
Amer. Samoa	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-

\*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable

U Unavailable

I International

S Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending  
May 2, 1987 and April 26, 1986 (17th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ræmia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986		Cum. 1987	Cum. 1986				
UNITED STATES	10,614	8,368	8	6,378	6,331	34	83	21	1,532
NEW ENGLAND	155	158	1	180	200	-	7	-	-
Maine	1	10	-	10	18	-	-	-	-
NH	1	6	-	5	9	-	-	-	-
VT	1	6	-	4	7	-	-	-	-
Mass	79	75	1	96	103	-	5	-	-
RI	4	10	-	16	11	-	1	-	-
Conn	69	51	-	59	52	-	1	-	-
MID ATLANTIC	1,885	1,140	1	1,191	1,291	-	8	-	119
Upstate N.Y.	70	62	-	183	201	-	3	-	9
N.Y. City	1,331	636	1	569	610	-	-	-	-
N.J.	211	224	-	214	233	-	5	-	3
Pa.	273	218	-	225	247	-	-	-	107
E N CENTRAL	171	323	-	788	800	1	12	3	37
Ohio	36	45	-	189	121	1	6	3	-
Ind.	15	41	U	63	98	-	1	-	4
Ill.	58	173	-	312	359	-	2	-	18
Mich.	44	46	-	209	180	-	2	-	1
Wis.	18	18	-	25	44	-	1	-	14
W N CENTRAL	43	80	3	182	178	10	5	-	304
Minn.	5	12	3	46	45	-	2	-	85
Iowa	7	5	-	10	14	2	-	-	101
Mo.	22	45	-	92	90	7	3	-	17
N. Dak.	-	2	-	1	2	-	-	-	42
S. Dak.	5	1	-	9	6	-	-	-	47
Nebr.	3	8	-	11	4	-	-	-	11
Kans.	1	7	-	13	17	1	-	-	21
S ATLANTIC	3,659	2,531	-	1,285	1,237	3	6	5	450
Del.	34	12	-	11	15	1	-	-	-
Md.	204	155	-	103	92	-	1	-	184
D.C.	101	117	-	42	51	-	-	-	20
Va.	84	146	-	112	120	1	-	-	141
W. Va.	5	7	-	41	43	-	-	-	21
N.C.	189	176	-	128	167	1	1	2	-
S.C.	251	235	-	125	139	-	-	3	20
Ga.	524	513	-	194	163	-	-	-	64
Fla.	2,256	1,170	-	529	447	-	3	-	20
E S CENTRAL	636	585	-	492	568	2	1	4	131
Ky.	6	26	-	117	148	1	-	-	89
Tenn.	293	223	-	143	154	-	1	3	38
Ala.	174	194	-	173	182	-	-	-	24
Miss.	163	142	-	59	84	1	-	1	-
W S CENTRAL	1,401	1,730	-	707	757	10	5	7	222
Ark.	70	93	-	73	80	3	1	-	63
La.	246	293	-	105	145	1	-	-	4
Okla.	47	51	-	72	85	6	1	7	6
Tex.	1,038	1,293	-	457	457	-	3	-	149
MOUNTAIN	244	208	2	160	129	7	3	1	118
Mont.	7	2	-	6	5	-	-	-	58
Idaho	1	1	-	18	5	1	-	-	-
Wyo.	22	-	-	-	-	-	-	-	32
Colo.	29	63	-	-	6	1	-	-	-
N. Mex.	21	26	-	32	32	1	3	-	-
Ariz.	120	90	-	88	64	2	-	-	27
Utah	6	4	2	8	4	1	-	-	-
Nev.	38	20	-	10	13	-	-	-	1
PACIFIC	2,421	1,615	2	1,413	1,171	1	36	1	153
Wash.	31	48	-	66	66	-	-	-	-
Oreg.	88	33	-	41	43	1	-	-	-
Calif.	2,295	1,517	2	1,218	991	-	34	1	152
Alaska	2	-	-	22	17	-	-	-	1
Hawaii	5	17	-	65	54	-	2	-	-
Guam	1	1	-	4	-	-	-	-	-
P.R.	316	284	-	86	81	-	-	-	23
V.I.	3	-	-	1	-	-	-	-	-
Pac. Trust Terr.	83	96	-	52	9	-	8	-	-
Amer. Samoa	2	-	-	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,\* week ending  
May 2, 1987 (17th Week)

Reporting Area	All Causes, By Age (Years)						PA <sup>†</sup> Total	Reporting Area	All Causes, By Age (Years)						PA <sup>†</sup> Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	851	455	115	47	16	18	52	S ATLANTIC	1,248	773	266	127	32	46	53
Boston, Mass.	172	110	30	20	5	7	28	Atlanta, Ga.	139	83	29	22	1	4	4
Bridgeport, Conn.	56	34	10	10	2	-	1	Baltimore, Md.	210	126	52	20	3	9	11
Cambridge, Mass.	26	24	1	1	-	-	5	Charlotte, N.C.	97	59	22	11	2	3	7
Fall River, Mass.	20	18	1	1	-	-	-	Jacksonville, Fla.	110	76	15	12	2	5	3
Hartford, Conn.	62	40	17	3	1	1	-	Miami, Fla.	129	76	19	14	11	8	-
Lowell, Mass.	22	19	2	-	1	-	-	Norfolk, Va.	61	38	13	7	1	2	3
Lynn, Mass.	18	15	3	-	-	-	-	Richmond, Va.	96	70	19	6	-	1	5
New Bedford, Mass.	28	23	2	3	-	-	1	Savannah, Ga.	60	36	17	4	2	1	3
New Haven, Conn.	40	22	10	3	2	3	1	St. Petersburg, Fla.	95	79	7	7	1	1	8
Providence, R.I.	54	41	7	1	1	4	1	Tampa, Fla.	71	46	18	3	1	2	1
Somerville, Mass.	6	5	1	-	-	-	-	Washington, D.C.	180	73	48	19	7	10	6
Springfield, Mass.	40	26	11	2	-	1	5	Wilmington, Del.	21	11	7	2	1	-	2
Waterbury, Conn.	31	21	6	2	-	-	-								
Worcester, Mass.	76	57	14	1	2	2	5								
MID ATLANTIC	2,935	1,881	588	290	87	89	123	E.S. CENTRAL	804	545	153	61	28	17	39
Albany, N.Y.	51	33	10	3	2	3	-	Birmingham, Ala.	111	74	21	8	8	2	-
Albany, N.Y.	21	16	5	-	-	-	-	Chattanooga, Tenn.	78	56	12	7	1	2	5
Buffalo, N.Y.	111	81	18	8	4	-	6	Knoxville, Tenn.	97	63	16	12	3	4	1
Camden, N.J.	45	25	12	6	1	1	-	Louisville, Ky.	85	64	14	3	2	2	3
Elizabeth, N.J.	29	20	6	3	-	-	-	Memphis, Tenn.	219	142	44	22	6	3	17
Erie, Pa.	30	19	8	3	-	-	2	Mobile, Ala.	52	30	15	5	2	-	2
Jersey City, N.J.	69	46	10	9	-	4	4	Montgomery, Ala.	47	33	8	3	1	2	2
N.Y. City, N.Y.	1,507	940	302	178	48	39	58	Nashville, Tenn.	116	83	24	3	3	2	9
Newark, N.J.	94	41	26	17	7	3	4								
Peterborough, N.J.	41	25	8	4	1	3	4	W.S. CENTRAL	1,417	867	320	130	61	49	74
Philadelphia, Pa.	502	321	111	37	10	23	26	Austin, Tex.	63	42	13	4	2	2	4
Pittsburgh, Pa.	78	53	16	4	1	4	2	Baton Rouge, La.	45	30	9	2	2	2	-
Reading, Pa.	25	21	2	1	1	-	2	Corpus Christi, Tex.	35	27	6	1	1	-	2
Rochester, N.Y.	124	93	17	7	4	3	8	Dallas, Tex.	229	118	56	33	15	7	11
Schenectady, N.Y.	19	11	7	-	-	-	-	El Paso, Tex.	52	32	10	4	3	3	3
Scranton, Pa.	27	24	2	-	1	-	-	Fort Worth, Tex.	93	59	22	6	2	4	8
Syracuse, N.Y.	94	60	19	5	5	5	2	Little Rock, Ark.	308	176	74	34	13	11	7
Trenton, N.J.	20	14	3	3	-	-	-	Houston, Tex.	75	46	23	5	1	-	10
Utica, N.Y.	25	18	5	1	1	-	-	Phoenix, Ariz.	141	89	36	8	3	5	8
Yonkers, N.Y.	23	20	1	1	-	1	3	Pueblo, Colo.	22	16	6	-	-	-	-
								Salt Lake City, Utah	38	25	7	5	1	-	-
								Tucson, Ariz.	133	94	25	9	2	3	11
E.N. CENTRAL	2,309	1,511	505	157	58	78	88	PACIFIC	1,930	1,274	385	153	69	39	107
Akron, Ohio	48	31	11	1	2	3	-	Berkeley, Calif.	12	5	5	1	1	-	-
Canton, Ohio	40	31	6	1	-	2	3	Fresno, Calif.	68	47	16	3	2	-	7
Chicago, Ill.	564	362	125	45	12	16	18	Glendale, Calif.	40	31	5	1	2	-	4
Cincinnati, Ohio	139	88	38	5	7	3	9	Honolulu, Hawaii	89	57	21	4	3	4	10
Cleveland, Ohio	176	103	38	16	11	8	-	Long Beach, Calif.	73	53	14	4	-	2	2
Columbus, Ohio	87	54	23	4	3	3	1	Los Angeles, Calif.	595	372	121	61	30	7	16
Dayton, Ohio	107	79	21	6	1	-	-	Oakland, Calif.	89	39	19	6	5	-	5
Detroit, Mich.	253	141	61	30	5	16	8	Pasadena, Calif.	29	22	3	1	1	2	3
Evansville, Ind.	41	31	7	3	-	-	2	Portland, Oreg.	105	66	10	1	5	3	7
Fort Wayne, Ind.	47	30	12	2	3	-	-	Sacramento, Calif.	152	102	31	12	3	4	9
Gary, Ind.	24	11	9	3	1	-	1	San Diego, Calif.	151	98	30	13	7	1	14
Grand Rapids, Mich.	73	50	10	7	4	2	7	San Francisco, Calif.	137	88	28	14	2	2	7
Indianapolis, Ind.	200	118	57	16	5	-	1	San Jose, Calif.	180	107	36	11	2	4	11
Madison, Wis.	36	20	5	1	-	-	-	Seattle, Wash.	144	92	25	17	2	8	6
Milwaukee, Wis.	147	114	22	6	1	4	5	Spokane, Wash.	56	36	11	3	3	2	5
Peoria, Ill.	30	23	5	1	1	-	4	Tacoma, Wash.	51	39	10	1	-	-	1
Rockford, Ill.	54	38	10	2	2	2	7								
South Bend, Ind.	48	38	7	-	-	1	8								
Toledo, Ohio	125	97	20	8	-	3	7								
Youngstown, Ohio	72	44	18	4	2	4	-								
W.N. CENTRAL	884	572	180	50	24	38	58								
Des Moines, Iowa	63	38	20	2	3	-	4								
Duluth, Minn.	29	20	4	5	-	-	3								
Kansas City, Kans.	30	23	8	-	1	-	3								
Kansas City, Mo.	135	78	35	13	4	7	5								
Lincoln, Neb.	35	30	2	-	1	2	2								
Minneapolis, Minn.	181	120	35	8	5	13	7								
Omaha, Neb.	101	68	17	6	2	8	7								
St. Louis, Mo.	153	108	31	7	4	5	16								
St. Paul, Minn.	59	42	13	4	-	-	1								
Wichita, Kans.	78	49	17	5	4	3	10								
TOTAL	12,875 <sup>††</sup>	8,349	2,558	1,068	399	388	630								

\* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

<sup>†</sup> Pneumonia and influenza.

<sup>††</sup> Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

<sup>‡</sup> Total includes unknown ages.

<sup>§</sup> Data not available. Figures are estimates based on average of past 4 weeks.

### **Blood Pressure Control — Continued**

Controlling high blood pressure has proven to be one of the most effective means available for reducing mortality in the adult population (4). However, if persons with hypertension erroneously believe that their high blood pressure is under control, they may be less motivated to adhere to their antihypertensive medications or follow beneficial health practices such as restricting intake of sodium, using alcohol in moderation, or controlling their weight. As a result, their blood pressure may remain uncontrolled.

Differences between perceived and actual control of high blood pressure could be due to any of the following nonclinical reasons: 1) health professionals may not have adopted the new definition of controlled blood pressure, 2) health professionals who have adopted the new definition may not have adequately informed patients of the status of their blood pressure control, 3) treated hypertensives may not remember that their blood pressure was not under control, 4) treated hypertensives may misperceive "under treatment" as meaning "under control", or 5) treated hypertensives may be reluctant to admit that their blood pressure is not under control.

Whatever the explanation for the discrepancy between measured and perceived control, health professionals and patients need to view controlled blood pressure as  $\leq 140/90$  mm Hg. In addition, it is important for health professionals to properly inform patients of the status of their blood pressure. Efforts of the National High Blood Pressure Education Program to get the public to "know their numbers", combined with education regarding the definition of hypertension, will help in achieving the 1990 objective of having 60% of hypertensives controlled at or below 140/90 mm Hg (2).

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### **Perspectives in Disease Prevention and Health Promotion**

#### **Mortality Due to Conditions Preventable by Medical Intervention — New Hampshire, 1970-1985**

Epidemiologic surveillance, which serves to identify areas requiring prevention and control efforts, is most effective when accurate and complete population-based data are available. In New Hampshire, population-based incidence data are available for only a limited number of conditions; therefore, mortality data from death certificates have been used as an indicator of health status. The following analysis examines the distribution of deaths in New Hampshire due to 14 specific conditions during the period 1970-1985. These particular conditions were studied because they generally do not lead to death if appropriate medical intervention is provided (1).

For this analysis, deaths were tabulated by year and county of residence. To increase the likelihood that mortality from the given conditions was preventable, only deaths occurring among specific age groups were included. Age-adjusted rates were derived by the direct method using the 1970 U.S. population as the standard. To estimate the years of potential life lost (YPLL) before age 65, each death was considered to have occurred during the mid-year of the individual age stratum.

During this 16-year period, 870 deaths were attributable to these 14 selected causes. Cervical cancer, hypertensive heart disease, and pneumonia accounted for 69% of these

*Mortality — Continued*

deaths and for 60% of the resulting YPLL (Table 2). The greatest number of deaths occurred among persons 45-54 years of age, followed by those aged 55-64. The overall age-adjusted county death rates ranged from 84.6 to 152.7/100,000 population during this period. The statewide age-adjusted mortality rate for these conditions declined from 97 in 1970 to 51 in 1985.

Reported by: E Schwartz, MD, MPH, State Epidemiologist, New Hampshire State Dept of Health and Human Services. Div of Surveillance and Epidemiologic Studies, Epidemiology Program Office, CDC.

**Editorial Note:** The above analysis provides a means for evaluating screening and treatment services and may be useful for health planning and for monitoring the impact of health care delivery on mortality. The occurrence of even a single sentinel health event\* represents a possible deficiency in the health care system. Thus, surveillance of case counts rather than comparison of rates is important. Calculation of YPLL before age 65 emphasizes the loss in productive years of life.

\*Unnecessary or untimely death (2).

**TABLE 2. Number of deaths and years of potential life lost (YPLL)\* due to conditions preventable by medical intervention, by age and cause — New Hampshire, 1970-1985**

Condition (Ninth Revision ICD <sup>†</sup> )	Age					Total	
	15-24	25-34	35-44	45-54	55-64	Deaths	YPLL
Cervical cancer (180)	0	16	26	94	92	228	3,194
Hypertensive heart disease (401-404)	0	4	11	39	135	189	1,771
Pneumonia and bronchitis (480-486, 490)	19	15	41	110	NA <sup>§</sup>	185	4,149
Cholecystitis (574-575)	0	0	1	12	25	38	350
Asthma (493)	8	6	9	14	NA <sup>§</sup>	37	1,024
Bacterial infection (004, 034, 320, 381-383, 390-392, 680-686, 710, 720)	3	4	6	9	15	37	655
Hodgkins disease (201)	7	24	NA <sup>§</sup>	NA <sup>§</sup>	NA <sup>§</sup>	31	1,171
Rheumatic heart disease (392-398)	3	7	17	NA <sup>§</sup>	NA <sup>§</sup>	27	820
Tuberculosis (011-019)	3	7	17	0	0	27	190
Abdominal hernia (550-553)	0	0	3	10	10	23	287
Influenza (487)	2	4	4	7	NA <sup>§</sup>	16	419
Maternal death (630-678)	6	8	2	NA <sup>§</sup>	NA <sup>§</sup>	16	608
Appendicitis (540-543)	1	2	3	2	6	14	258
Acute respiratory disease (460-466)	3	2	6	0	NA <sup>§</sup>	11	251
<b>Total</b>	<b>49</b>	<b>93</b>	<b>124</b>	<b>312</b>	<b>292</b>	<b>870</b>	<b>15,147</b>

\*For details of calculation, see *MMWR Supplement, Premature Mortality in the United States*, December 19, 1986, Vol. 35, No. 25.

<sup>†</sup>International Classification of Diseases.

<sup>§</sup>Age group not included in analysis.

### *Mortality — Continued*

The annual averages of 14 deaths from cervical cancer and 12 deaths from hypertensive heart disease suggest the need to evaluate screening and treatment services. The small but persistent number of deaths due to appendicitis, cholecystitis, and abdominal hernias, all of which are surgically correctable, implies a need to evaluate the accessibility of health care. Additionally, an average 12 pneumonia and bronchitis deaths each year in the 15- to 54-year age group suggests possible shortcomings in the health care system.

Data from death certificates do not provide sufficient detail to determine the underlying circumstances that may have led to these deaths. Various factors, including the presence of coexisting diseases and other predisposing conditions that may complicate treatment, might explain their occurrence. Socioeconomic conditions such as financial constraints, lack of education, and unavailability of transportation as well as the quality of medical care may also be important.

The almost 50% decline in the statewide age-adjusted mortality rate from these 14 conditions over the 16-year period indicates an improvement in health care. Continued efforts to prevent unnecessary or untimely deaths will require evaluating both the social conditions that may cause diseases and the factors influencing the efficacy of medical services. Monitoring sentinel deaths and the subsequent search for their causes may provide new opportunities for preventing needless mortality.

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### Current Trends

#### **Bicycle-Related Injuries: Data from the National Electronic Injury Surveillance System**

Since its inception in 1972, the U.S. Consumer Product Safety Commission (CPSC) has used its National Electronic Injury Surveillance System (NEISS) to collect data on product-related injuries treated in emergency rooms. Currently, 62 hospitals located throughout the United States contribute to this data base. Based on NEISS data, CPSC estimates that in 1985 there were nearly 10 million emergency room visits for nonoccupational, product-related injuries. Approximately 574,000 (5.7%) of these involved bicycles.

To determine whether NEISS could be expanded to cover all reported injuries, CPSC conducted a special study supported by CDC and the Bureau of Justice Statistics of the U.S. Department of Justice. From September 15-28, 1986, eight of the reporting hospitals collected data on all injured patients, whether or not consumer products were involved.

Information collected on the 3,418 injuries reported during the study period included a narrative description of all injury events. For each of the 2,232 product-related injuries, the product involved was assigned the corresponding NEISS consumer product code. The narrative descriptions were reviewed, and each injury was assigned an external cause of injury code (E-code\*) in accordance with the International Classification of Diseases, Ninth Revision, Clinical Modification (7). The 120 incidents that involved noninjury conditions were excluded from further analysis.

\*A shorthand notation for classifying the circumstance or event preceding an injury (7).

**Bicycle-Related Injuries—Continued**

To assess the value of the data collected during this broad, short-term study, bicycle-related injuries were analyzed. During the 2-week study period, bicycle-related injuries accounted for slightly more than 3% of the 3,298 injuries treated. Five of the 101 patients with bicycle-related injuries were hospitalized, and the remaining 96 were treated and released. There were no deaths due to bicycle-related injuries.

As in other investigations, <15% of the bicycle-related injuries resulted from collisions with motor vehicles (2,3). Sixty-nine bicyclists were injured while riding in locations other than public highways. Seventeen injuries involved bicycles being maintained or otherwise not being ridden. Compared with nonbicycle-related injuries, bicycle-related injuries were more likely to involve facial trauma but less likely to involve other head trauma (Table 3). Bicycle-related injuries accounted for approximately the same proportion of total trauma visits for both sexes (Table 4). However, there was large variation across age strata; more than half of the bicycle-related injuries occurred in the 5- to 14-year-old age group.

*Reported by: Div of Injury Epidemiology and Control, Center for Environmental Health, CDC.*

**Editorial Note:** Analysis of the NEISS data generated in this special 2-week study has led to several observations about the system. First, NEISS has the potential for monitoring a variety of injuries including those that are of public health concern. Second, the system can be temporarily expanded on short notice. Third, a succinct narrative description of the circumstances of injuries allows E-codes to be assigned in most instances. Finally, E-coding in areas such as bicycle-related injuries can be effectively supplemented by NEISS product codes (19 of the injuries were identified and two erroneous ones were excluded on the basis of the product code).

**TABLE 3. Bicycle- and nonbicycle-related injuries treated in selected hospitals, by location of injury — National Electronic Injury Surveillance System, September 15-28, 1986**

Location of Injury	Bicycle Injuries		Nonbicycle Injuries	
	No.	(%)	No.	(%)
Head	5	(5.0)	312	(9.8)
Face/Mouth	19	(18.8)	342	(10.7)
Upper Extremities	18	(17.8)	712	(22.3)
Lower Extremities	19	(18.8)	498	(15.6)
Trunk	8	(7.9)	223	(7.0)
Multiple Sites	12	(11.9)	339	(10.6)
Other	20	(19.8)	771	(24.1)
Total	101	(100.0)	3,197	(~100.0)

**TABLE 4. Bicycle- and nonbicycle-related injuries treated in selected hospitals, by age and sex — National Electronic Injury Surveillance System, September 15-28, 1986**

Age	Males				Females			
	Bicycle-Related Injuries		Nonbicycle-Related Injuries		Bicycle-Related Injuries		Nonbicycle-Related Injuries	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
<4	4	(6.6)	242	(12.5)	2	(5.0)	156	(12.4)
5-9	18	(29.5)	173	(8.9)	7	(17.5)	91	(7.2)
10-14	14	(23.0)	208	(10.7)	13	(32.5)	99	(7.9)
15-19	9	(14.8)	277	(14.3)	6	(15.0)	127	(10.1)
20-24	4	(6.6)	238	(12.3)	5	(12.5)	132	(10.5)
≥25	12	(19.7)	803	(41.4)	7	(17.5)	651	(51.8)
Total	61	(~100.0)	1,941	(~100.0)	40	(100.0)	1,256	(~100.0)

***Bicycle-Related Injuries — Continued***

In the special NEISS study reported here, bicycle-related injuries accounted for slightly more than 3% of the 3,298 injuries treated. The difference between this percentage and the 1985 CPSC national average of 5.7% is, for the most part, attributable to the inclusion of occupational and nonproduct-related injuries in the special study. These inclusions increased the denominator by almost 33% while adding no additional bicycle-related injuries to the numerator. In addition, the study was carried out during a time when the rate of bicycle-related injuries is lower than the yearly average.

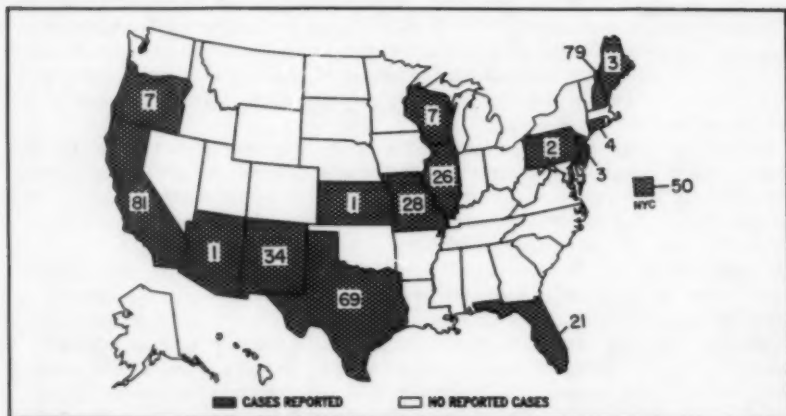
The number of injuries reported during this study did not provide sufficient data to completely evaluate the range of seriousness of bicycle-related injuries. In this short time period there were no deaths and only 5 of the 101 patients with bicycle-related injuries required overnight hospitalization. Other investigations have shown that the most serious bicycle-related injuries involve head trauma resulting from crashes with automobiles (4,5).

Measures to prevent bicycle-related injuries can be categorized under 1) proper road design and maintenance, 2) improvement in bicycle manufacture, and 3) dissemination of safety information (2). The need for improvements in the manufacturing of bicycles was identified through analysis of NEISS data. In response to this need, CPSC issued safety standards in 1974 for bicycle frames, brakes, steering systems, and wheels and required a standardized road test for bicycles (6). Dissemination of safety information includes education regarding safe riding practices, bicycle maintenance, and use of appropriate head gear (6). Sample copies of bicycle safety information for children are available to health professionals from the American Academy of Pediatrics, Publications, 141 Northwest Point Blvd., Elk Grove Village, IL 60009-0927.

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FIGURE 1. Reported measles cases — United States, weeks 13-16, 1987



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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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